

angle greater than a specified maximum viewing angle, intruder analysis module 308 may not classify the camera as an intruder. Intruder analysis module 308 provides the results of this analysis to edit generation module 316.

[0053] In one embodiment, intruder analysis module 308 may receive input via input 320 from a sensor that is a single camera. The input may be of image information, and may include the camera's focal length for the particular image. Intruder analysis module 308 may also receive information from configuration data 312 of the camera's specifications. Intruder analysis module 308 may detect viewers as discussed above, and then determine a viewer's range based on the angular size of the intruder (or portions thereof). For example, the size of some portions of the human body (e.g., facial width, or eye-to-eye separation) are relatively constant for most people. Accordingly, a priori knowledge of this physical size, combined with the angular size as measured by a camera, allows intruder analysis module 308 to infer a range estimate. Intruder analysis module 308 may detect viewers as discussed above, and then determine a viewer's range based on focusing algorithms. For example, intruder analysis module 308 may use the focal length necessary for focus in conjunction with the camera's specifications to calculate a distance. As another example, intruder analysis module may use contrast detection and phase detection algorithms to focus the image. Intruder analysis module 308 may use the calculated distance and the image information to determine a viewing angle of a viewer. Intruder analysis module 308 may then use the calculated distance and viewing angle in analyzing the viewer as discussed above. As another example, intruder analysis module 308 may use the ability of the camera to resolve features of the viewer in order to infer the ability of the viewer to resolve visual contents displayed on the screen, i.e., if the camera cannot clearly resolve the viewer, the intruder analysis module 308 may assume the converse, and not classify him as an intruder. This analysis may involve a priori knowledge of typical human visual acuity (which may be dependant upon the ambient lighting conditions) as well as the imaging resolution capabilities of the camera and the quality of the image it obtains of the viewer.

[0054] In one embodiment, intruder analysis module 308 receives input via input 320 from a sensor that contains two cameras. The input may be of image or video information. Intruder analysis module 308 may also receive camera specification information from configuration data 312. Using the two camera input, intruder analysis module 308 may use stereoscopic algorithms to calculate the range of a viewer. Intruder analysis module 308 may use the calculated range and the image or video information to determine a viewing angle of a viewer. Intruder analysis module 308 may use the calculated range and viewing angle in analyzing the viewer as discussed above.

[0055] In one embodiment, intruder analysis module 308 may receive input via input 320 from a sensor that contains a camera and distance measuring device (e.g., a sonic or ultrasonic device, a microphone, an infrared device, a micropower impulse radar device, a light detection and ranging device etc.) The input may be of image or video information and distance information. Intruder analysis module 308 may also receive camera specification information from configuration data 312. Intruder analysis module 308 may use the distance information to determine a range of a viewer. Intruder analysis module 308 may then use the range and the image or video information to determine a viewing angle of a viewer.

Intruder analysis module 308 may use the range and viewing angle in analyzing the viewer as discussed above.

[0056] In one embodiment, intruder analysis module 308 may receive content information, in addition to input from a sensor. The content information may be of a content type that is being primarily displayed. For example, a content type may be of "text" or "video." Intruder analysis module may use the content type information in addition to analyzing the viewer as discussed above. For example, if the content being displayed on an electronic media display is text of a small font, the range in which a viewer is considered an intruder may be decreased due to the difficulty of reading small text at a distance. As another example, if the content being displayed is an image, the range in which a viewer is considered an intruder may be increased due to the ease of viewing an image.

[0057] Edit generation module 316 is configured to receive data from intruder analysis module 308. Edit generation module 316 is further configured to provide communication capabilities with an electronic media display via input 320 and output 322. The data may include results from any analysis performed by intruder analysis module 308. Edit generation module 316 may determine whether to perform edits to content on an electronic media display (e.g., electronic media display 400). For example, the data may indicate the presence of intruders (e.g., intruding viewers, intruding cameras), and edit generation module 316 may then determine that content must be edited. Edit generation module 316 may accept information corresponding to the contents displayed on an electronic media display. Edit generation module may then provide the commands for editing the content and transmit the commands via output 322.

[0058] As an example, edit generation module 316 may provide commands to degrade the visibility of the electronic media display content (e.g. blurring the content of the electronic media display, dimming the brightness of the content of the electronic media display, reducing the font size of the content of the electronic media display, switching the content of the electronic media display to a new content, stopping (or refusing to start) the display of the content of the electronic media display device, etc.) As another example, edit generation module 316 may provide commands necessary for warning the user with an alert message, by playing an alert sound, or by muting the sound. As another example, the alert may involve haptic feedback (e.g., a vibration), or visual alert indication (e.g., flashes, color changes). As another example, the data from intruder analysis module 308 may indicate the lack of any intruders, and edit generation module 316 may then determine that the content should be displayed unedited and may not send any commands to edit content, or may send commands to cease any editing that is occurring.

[0059] In one embodiment, edit generation module 316 may generate commands to switch content displayed on an electronic media display (e.g., electronic media display 400) to new content in real time. For example, electronic media display 400 may be the display of a cellular phone, and a user may be watching a film that is not appropriate for children on the cellular phone. A child may walk up behind the display, and edit generation module 316 may send commands to switch the film to a blank stream of white frames with no audio. In another example edit generation module 316 may send commands to pause the film and blur the display. In another example edit generation module 316 may send commands to pause the film and dim the brightness of the display.